

What is claimed is:

1. A method for controlling a cell reselection mode of a mobile station while the mobile station resides in a cell comprising:
 - determining a cell reselection mode of the mobile station;
 - 5 determining whether the mobile station is experiencing a change in radio frequency (RF) conditions; and
 - when the mobile station is experiencing a change in RF conditions, instructing the mobile station to change a cell reselection mode used by the mobile station.
- 10 2. The method of claim 1, wherein determining whether the mobile station is experiencing a change in radio frequency (RF) conditions comprises:
 - evaluating a downlink signal; and
 - determining whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the evaluation of the downlink signal.
- 15 3. The method of claim 2, wherein evaluating a downlink signal comprises:
 - determining a signal quality metric associated with the downlink signal;
 - comparing the signal quality metric to a signal quality metric threshold; and
 - determining whether the mobile station is experiencing a change in radio
 - 20 frequency (RF) conditions based on the comparison.
4. The method of claim 2, wherein evaluating a downlink signal comprises:
 - determining a signal quality metric associated with the downlink signal;
 - determining an uplink coding scheme based the signal quality metric; and
 - 25 determining whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the determined uplink coding scheme.
5. The method of claim 2, wherein instructing the mobile station to change a cell reselection mode used by the mobile station comprises:
 - 30 when the evaluation of the downlink signal indicates a deterioration of radio frequency (RF) conditions experienced by the mobile station and the mobile station is

using an autonomous cell reselection mode, instructing the mobile station to switch to a network-controlled cell reselection mode; and

when the evaluation of the downlink signal indicates an improvement of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using a network-controlled cell reselection mode, instructing the mobile station to switch to an autonomous cell reselection mode.

6. The method of claim 2, wherein changing a cell reselection mode of the mobile station comprises when the evaluation of the downlink signal indicates an improvement of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using an autonomous cell reselection mode that requires reporting, instructing the mobile station to switch to an autonomous cell reselection mode that does not require reporting.

7. The method of claim 2, wherein evaluating a downlink signal comprises evaluating one or more downlink signals received over an evaluation period.

8. The method of claim 1, wherein determining whether the mobile station is experiencing a change in radio frequency (RF) conditions comprises:
evaluating an uplink signal; and
determining whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the evaluation of the uplink signal.

9. The method of claim 8, wherein evaluating a downlink signal comprises:
determining a signal quality metric associated with the uplink signal;
comparing the signal quality metric to a signal quality metric threshold; and
determining whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the comparison.

10. The method of claim 8, wherein evaluating an uplink signal comprises:
determining a signal quality metric associated with the uplink signal;
determining an uplink coding scheme based the signal quality metric; and

determining whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the determined uplink coding scheme.

11. The method of claim 8, wherein changing a cell reselection mode of the mobile station comprises:

when the evaluation of the uplink signal indicates a deterioration of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using an autonomous cell reselection mode, instructing the mobile station to switch to a network-controlled cell reselection mode; and

10 when the evaluation of the uplink signal indicates an improvement of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using a network-controlled cell reselection mode, instructing the mobile station to switch to an autonomous cell reselection mode.

12. The method of claim 8, wherein changing a cell reselection mode of the mobile station comprises when the evaluation of the uplink signal indicates an improvement of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using an autonomous cell reselection mode that requires reporting, instructing the mobile station to switch to an autonomous cell reselection mode that does not require reporting.

13. The method of claim 8, wherein evaluating an uplink signal comprises evaluating one or more uplink signals received over an evaluation period.

14. The method of claim 1, wherein instructing the mobile station to switch a cell reselection mode used by the mobile station comprises, when the evaluation of the downlink signal indicates an improvement of radio frequency (RF) conditions experienced by the mobile station, instructing the mobile station to lengthen a reporting period associated with a cell reselection mode used by the mobile station.

15. A network controller comprising:

at least one memory device that stores a default cell reselection mode associated with a cell serviced by the network controller; and

5 a processor coupled to the at least one memory device that determines a cell reselection mode of a mobile station located in the cell, determines whether the mobile station is experiencing a change in radio frequency (RF) conditions, and when the mobile station is experiencing a change in RF conditions, instructs the mobile station to change a cell reselection mode.

10 16. The network controller of claim 15, wherein the processor determines whether the mobile station is experiencing a change in radio frequency (RF) conditions by evaluating a downlink signal quality metric associated with a downlink signal determines whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the evaluation.

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17. The network controller of claim 16, wherein the processor evaluates the signal quality metric by comparing the signal quality metric to a signal quality metric threshold and further determines whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the comparison.

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18. The network controller of claim 16, wherein the processor evaluates the signal quality metric by determining an uplink coding scheme based the signal quality metric and further determines whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the determined uplink coding scheme.

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19. The network controller of claim 16, wherein the processor instructs the mobile station to change a cell reselection mode used by the mobile station by, when the evaluation of the downlink signal quality metric indicates a deterioration of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using an autonomous cell reselection mode, instructing the mobile station to switch to a network-controlled cell reselection mode, and when the evaluation of the downlink signal quality metric indicates an improvement of radio frequency (RF) conditions experienced

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by the mobile station and the mobile station is using a network-controlled cell reselection mode, instructing the mobile station to switch to an autonomous cell reselection mode.

20. The network controller of claim 16, wherein the processor instructs the mobile station to change a cell reselection mode used by the mobile station by, when the evaluation of the downlink signal quality metric indicates an improvement of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using an autonomous cell reselection mode that requires reporting, instructing the mobile station to switch to an autonomous cell reselection mode that does not require reporting.

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21. The network controller of claim 16, wherein the processor evaluates a downlink signal quality metric by evaluating downlink signal quality metrics over an over an evaluation period.

22. The network controller of claim 15, wherein the processor determines whether the mobile station is experiencing a change in radio frequency (RF) conditions by evaluating an uplink signal quality metric associated with an uplink signal determines whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the evaluation.

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23. The network controller of claim 22, wherein the processor evaluates the uplink signal quality metric by comparing the uplink signal quality metric to a signal quality metric threshold and further determines whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the comparison.

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24. The network controller of claim 22, wherein the processor evaluates the uplink signal quality metric by determining an uplink coding scheme based the uplink signal quality metric and further determines whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the determined uplink coding scheme.

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25. The network controller of claim 22, wherein the processor instructs the mobile station to change a cell reselection mode used by the mobile station by, when the

evaluation of the uplink signal quality metric indicates a deterioration of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using an autonomous cell reselection mode, instructing the mobile station to switch to a network-controlled cell reselection mode, and when the evaluation of the uplink signal quality metric indicates an improvement of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using a network-controlled cell reselection mode, instructing the mobile station to switch to an autonomous cell reselection mode.

26. The network controller of claim 22, wherein the processor instructs the mobile station to change a cell reselection mode used by the mobile station by, when the evaluation of the uplink signal quality metric indicates an improvement of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using an autonomous cell reselection mode that requires reporting, instructing the mobile station to switch to an autonomous cell reselection mode that does not require reporting.

27. The network controller of claim 22, wherein the processor evaluates an uplink signal quality metric by evaluating uplink signal quality metrics over an evaluation period.

28. The network controller of claim 15, wherein the processor instructs the mobile station to switch a cell reselection mode used by the mobile station comprises by, when the evaluation of the downlink signal indicates an improvement of radio frequency (RF) conditions experienced by the mobile station, instructing the mobile station to lengthen a reporting period associated with a cell reselection mode used by the mobile station.

29. The network controller of claim 15, wherein the network controller comprises at least one of a Base Station Controller, a Packet Control Unit, and a Packet Control Function.